

REMARKS

Claims 124-134 are pending in the application. Claim 128-134 are withdrawn by the examiner. Claims 124, 126 and 127 are amended for clarity, as described below. Therefore, no new matter is introduced. The office action is discussed below.

Election/Restriction:

On page 2 of the Office Action, the examiner has withdrawn claims 128-134 allegedly as being directed to a non-elected invention. The examiner asserts that the terms "melting" and "pre-annealing" are not synonymous. The examiner believes that the term "pre-annealing" encompasses thermal treatment at various temperatures other than the melting temperature or temperatures above melting and refers that the dictionary definition of "annealing" is heating a material and cooling it slowly. Applicants respectfully disagree with the examiner indicate that the term "pre-annealing" encompasses thermal treatment at various temperatures including the melting temperature or temperatures above melting. Therefore, the "melting" step is synonymous with the "pre-annealing" step in a process of fabricating a polymeric material. Applicants reiterate for the record that "pre-annealing" is used as a synonym for "melting" in the US Patent 6,562,540 (Saum *et al.*, the '540 patent). See Saum *et al.* for example, col. 4, lines 23-25, col. 6, lines 35-38, that describes pre-annealing of UHMWPE at a temperature greater than about 280°C (which is well above the melting point of the UHMWPE).

Therefore, withdrawal of the restriction and rejoinder of the claims 128-134 are solicited.

Withdrawal of Indefiniteness Rejection:

On page 2 of the Office Action, the examiner has indicated withdrawal of the indefiniteness rejection of claim 124. The claim has been amended accordingly to address the issue raised by the examiner. However, on page 6 of the Office Action, the examiner recited the rejection. Applicants request withdrawal of the rejection or an explanation in this regard.

Response to Arguments:

Written Description Rejection:

On pages 4-5 of the Office Action, the examiner has maintained the alleged rejection of claims 124-127 for various written description-related reasons.

On pages 3-4 of the Office Action, with respect to the rejections under 35 USC 112, first paragraph, applicants refer that it is well-known that 175°C is less than the decomposition temperature of UHMWPE (see for example, Saum, *et al.* US 6,562,540, col. 6, lines 34-41, discloses UHMWPE is pre-annealed to a temperature of 280°C to 355°C, preferably 320°C to 355°C, without reaching its decomposition temperature. That is, the decomposition temperature of the UHMWPE is much higher than 175°C.

Applicants also point out to the specification for the support for 175°C and other temperatures. For example, specification at page 30 describes temperatures of “about 145°C to about 230°C, and more preferably, is about 175° to about 200°C.” The specification also describes that “the heating is maintained so to keep the polymer at the preferred temperature for about 5 minutes to about 3 hours, and more preferably for about 30 minutes to about 2 hours.”

With respect to the recitation “greater than 30 minutes”, the examiner complains that there is no recognition in the specification as filed that greater than 30 minutes is a significant time period. Applicants refer to above that the specification, for example, at page 30 describes “the preferred temperature [is] about 5 minutes to about 3 hours, and more preferably [is] about 30 minutes to about 2 hours.” Applicants also refer to specification, for example, at Example 3, at page 41, that the temperature varied “between 200°C at the base to 175°C at the top.... [and] was held at these temperatures for a period of 30 minutes before starting the irradiation.” The heating was continued until “[a]fter irradiation, the heating was stopped and the cup was allowed to cool to room temperature.” The specification, thus clearly discloses “pre-annealing” for a period of time “greater than 30 minutes”, because the heating continued until after irradiation and then cool slowly (which satisfies examiner’s asserted definition of “annealing” or “pre-annealing”, see above and page 2 of the Office Action). Therefore, the specification has full support for the claim recitation of

"pre-annealing a polyethylene preform at a temperature greater than ambient temperature and less than the decomposition temperature of the polyethylene for a period of time greater than 30 minutes."

Applicants also reiterate regarding the range limitation, that the duration of "30 minutes" is within the range of "about 5 minutes to about 3 hours" as described above. Therefore, the range limitation for a period of time "greater than 30 minutes" is fully supported by the specification (See *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), MPEP 2163.05 III at 2100-189 to 190 (Rev. 3, August 2005)).

Withdrawal of the rejection is therefore solicited.

Anticipation/Obviousness Rejections:

On pages 6-7 of the Office Action, the examiner has maintained the alleged anticipation and obviousness rejections of claims 124-127 in view of Salovey (the '264 patent), Shalaby (the '411 patent) and/or Sun (the '049 patent) of the record.

With respect to the rejection of claims over Salovey *et al.*, on page 3 of the Office Action, the examiner asserted that the declarations filed in the related cases (see US Serial No. 10/197,263, filed July 18, 2002, declarations filed pursuant to 37 C.F.R. § 1.131 evidencing completion of the claimed invention prior to January 20, 1995, and the Salovey '264 patent is not a prior art) are not of record in the instant application. In response, applicants herewith submit a copy of the declaration to antedate Salovey. Applicants also submit that the instant claims are entitled to section 120 priority date of 02-13-1996 or 10-13-1996, since the original specification has support for "pre-annealing at a temperature greater than ambient temperature and less than the decomposition temperature of the polyethylene for a period of time greater than 30 minutes", as discussed above.

On pages 3-4 of the Office Action, with respect to the instant claim recitation of "irradiating the polyethylene preform to crosslink the polyethylene preform", the examiner states that Shalaby, Salovey, or Sun's "low dose irradiation" or "sterilization irradiation" is encompassed by the instantly claimed phrase "irradiating the polyethylene preform". Applicants disagree with the examiner and point out that the "low dose

irradiation" or "sterilization irradiation" of Shalaby, Salovey, or Sun would generate residual free radicals and would not be "quenching residual free radicals in the ultrahigh molecular weight polyethylene preform subsequent to the irradiating step", as required by the claimed method. Therefore, Salovey, Shalaby, and/or Sun does not disclose the claimed method.

On page 4 of the Office Action, the examiner also complains that the claim phrase "to crosslink the polyethylene preform" is a statement of intended purpose and not a patentable weight. The examiner believes that the irradiation, as disclosed by Shalaby or Sun, would be expected to crosslink the polyethylene. Applicants refer to above discussion and submit that the "low dose irradiation" or "sterilization irradiation" of Salovey, Shalaby, or Sun would generate residual free radicals and would not be "quenching residual free radicals in the ultrahigh molecular weight polyethylene preform subsequent to the irradiating step", as required by the claimed method. Therefore, Salovey, Shalaby, and/or Sun does not anticipate the claimed methods nor make the claimed methods obvious.

In addition, applicants indicate that the claim phrase "to crosslink the polyethylene preform" is also recited in the claims of the '540 Saum patent (see claim 1, at col. 16, lines 60-61, for example). Without acquiescing in the rejection, in order to expedite the prosecution and for clarity, Applicants amend claims 124, 126, and 127 to recite "irradiating the ultrahigh molecular weight polyethylene preform, thereby crosslinking the ultrahigh molecular weight polyethylene preform."

Therefore, withdrawal of the anticipation/obviousness rejection is requested.

Double Patenting Rejection:

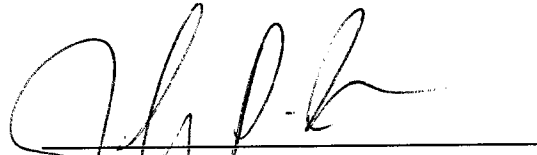
On pages 4 and 8-10 of the Office Action, the examiner also has maintained the provisional rejection of claims 124-127 under the judicially created doctrine of obviousness-type double patenting allegedly as being unpatentable over pending claims of co-pending applications serial nos. 10/948,440, 10/197,209, 10/696,362, 10/901,089 and 10/197,263.

Applicants reiterate that none of the cited co-pending applications have received a notice of allowance, therefore, the merits of this provisional rejection need not be discussed at this time. See MPEP § 822.01.

REQUEST

Applicants submit that claims 124-127 are in condition for allowance, and respectfully request favorable consideration to that effect. The examiner is invited to contact the undersigned at (202) 416-6800 should there be any questions.

Respectfully submitted,



John P. Isacson
Reg. No. 33,715

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Date

PROSKAUER ROSE LLP
1001 Pennsylvania Avenue, N.W.
Suite 400 South
Washington, D.C. 20004
Phone: 202-416-6800
Fax: 202-416-6899
Customer No. 61263